

=> d his

(FILE 'HOME' ENTERED AT 12:29:30 ON 28 APR 2004)  
FILE 'CA' ENTERED AT 12:29:39 ON 28 APR 2004  
L1 78 S (BORAX OR BORATE OR BORIC OR NA2B4O7 OR H3BO3) (1A) (AMMONI? OR NH3  
OR NH4OH OR NH4 OR NH4CL) (5A) BUFFER?  
L2 69 S L1 NOT PY>1998

=> d bib,ab 12 1-69

L2 ANSWER 51 OF 69 CA COPYRIGHT 2004 ACS on STN  
AN 60:13160 CA  
OREF 60:2325c-d  
TI Reaction of yttrium with Alizarine S and ammonia  
AU Serdyuk, L. S.; Silich, V. F.  
CS State Univ., Dnepropetrovsk  
SO Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1963), 29(8), 848-54  
LA Russian  
AB Y3+ and Alizarine S (I) form YI at an optimum pH of 9.8 in an NH4OH-  
H3BO3 buffer. With NH4I, 2 compds.,  $\lambda$  530 m $\mu$ , YI3.2NH4I and YI3.5NH4I,  
having molar absorptivities of  $3.5 \times 10^4$  and  $5.6 \times 10^4$ , are formed;  
since that of I is 7000, the absorption is that of the I present.

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(FILE 'HOME' ENTERED AT 10:31:14 ON 28 APR 2004)  
FILE 'CA' ENTERED AT 10:31:23 ON 28 APR 2004  
L1 8866 S (BORAX OR BORATE OR BORIC OR BO3 OR NA2B4O7 OR H3BO4) (5A) BUFFER?  
L2 5792 S (AMMONI? OR NH3 OR NH4OH OR NH4CL) (5A) BUFFER?  
L3 198 S L1 AND L2  
L4 82 S L3 AND (COMPAR? OR CHARACTERIS? OR PROPERTY OR CL2 OR CL OR  
CHLORI!E OR CLO2 OR CLO3 OR CLO4 OR NACLO3 OR KCLO3 OR NACLO4 OR  
KCLO4 OR HCLO3 OR HCLO4 OR HCLO2 OR HCLO OR NACLO2 OR KCLO2 OR  
NACLO OR KCLO OR CHLORATE OR CHLORITE)  
L5 63 S L4 NOT PY>1998  
L6 8 S L4 NOT L5 AND PATENT/DT  
L7 71 S L5-6

=> d bib,ab 1-71 17

L7 ANSWER 23 OF 71 CA COPYRIGHT 2004 ACS on STN  
AN 120:31050 CA  
TI Studies on the complexation of polyols and carbohydrates with excess  
borate using thermospray mass spectrometry  
AU Liptak, Miklos; Dinya, Zoltan; Herczegh, Pal; Jeko, Jozsef  
CS Hung. Acad. Sci., Univ. Debrecen, Debrecen, H-4010, Hung.  
SO Organic Mass Spectrometry (1993), 28(7), 780-4  
AB Complex formation between different polyols, carbohydrates and borate

was studied by thermo-spray mass spectrometry. The analytes were dissolved in 0.1 M **ammonium borate buffer** and introduced through a std. thermospray interface into a quadrupole mass spectrometer. The formation of various complexes which gave rise to relatively abundant ions in the thermo-spray spectra was obsd. A correlation has been found between the relative intensities of these ions and the orientation of the hydroxyl groups involved in the complexation.

L7 ANSWER 31 OF 71 CA COPYRIGHT 2004 ACS on STN  
AN 109:177469 CA  
TI Carbon-13/carbon-12 fractionation during the chemical absorption of carbon dioxide gas by the **ammonia-ammonium chloride buffer**  
AU Usdowski, E.; Hoefs, J.  
CS Sedimentpetrogr. Inst., Univ. Goettingen, Goettingen, D-3400, Fed. Rep. Ger.  
SO Chemical Geology (1988), 73(1), 79-85  
AB Upon the absorption of CO<sub>2</sub> by alk. solns. a kinetic partitioning of the carbon isotopes occurs. Thus, the <sup>13</sup>C/<sup>12</sup>C ratio of the dissolved CO<sub>2</sub> is not identical with that of the gas phase, and the kinetic partition coeff. has to be known in order to det. the isotopic compon. of the gas if that of the dissolved CO<sub>2</sub> is measured. Previously it has been shown that with respect to the **borate buffer**, the kinetic partitioning between the dissolved and gaseous CO<sub>2</sub> is -19.5% at room temp. However, the present expts. reveal that in contrast to this buffer, the <sup>13</sup>C/<sup>12</sup>C fractionation occurring with the **NH<sub>3</sub>-NH<sub>4</sub>Cl buffer** is not const., but varies as a function of the exposure time. Under the chosen conditions the  $\delta^{13}\text{C}$ -values of the dissolved carbonate, pptd. as BaCO<sub>3</sub>, alter from ~-58 to ~-26% during absorption periods of 2 and 48 h, resp. This is due to the continuous decrease of pH which is caused by the evapn. of NH<sub>3</sub>. Thus, the rates of the reactions of <sup>13</sup>CO<sub>2</sub> and <sup>12</sup>CO<sub>2</sub> with NH<sub>3</sub> and OH<sup>-</sup> vary as a function of time. The isotope effects in the early and in the prolonged stage of CO<sub>2</sub> absorption can be deduced and quantified from kinetic considerations.

L7 ANSWER 37 OF 71 CA COPYRIGHT 2004 ACS on STN  
AN 98:61913 CA  
TI Catalytic prewaves of cobalt(II) in presence of dimethyldithiocarbamate  
AU Galvez, J.; Marin, D.; Fuente, T.; Sarabia, M.  
CS Lab. Phys. Chem., Fac. Sci., Murcia, Spain  
SO Electrochimica Acta (1982), 27(9), 1253-7  
AB Two well defined prewaves of Co(II) in the presence of dimethyldithiocarbamate (I) [79-45-8] in a medium contg. NH<sub>3</sub> (**borax-NH<sub>4</sub>Cl** and **NH<sub>4</sub>OH-NH<sub>4</sub>Cl buffer**) are obsd. The effect of gelatine, I, Co(II), NH<sub>4</sub>OH and **NH<sub>4</sub>Cl** concns., Hg reservoir height, **buffer** capacity, pH, and temp. on the prewaves are described. In addn., the **characteristics** of the current-time and electrocapillary curves are shown. A mechanism is proposed in which the Co(II) prewaves are produced by Co(II) complexes with I. In these complexes, the Co(II) and I are in a 1:1 and 1:2 ratio for the first and second prewave, resp. A value of the rate const. for the formation of the first prewave catalytic complex of  $6.0 \times 10^6 \text{ L/mol/s}$  was found at 20°.

L7 ANSWER 60 OF 71 CA COPYRIGHT 2004 ACS on STN  
AN 53:119777 CA  
OREF 53:21360g-i,21361a  
TI Separation of condensed phosphates by chromatography on anion-exchange resins  
AU Matsuhashi, Michio  
CS Univ. Osaka  
SO Journal of Biochemistry (Tokyo, Japan) (1957), 44, 65-7  
LA German  
AB The exptl. soln. of Graham salt was freed from tri- and tetramers of phosphate by pptn. with Ba, treated with Amberlite IR-120, and neutralized with NH3. The ion exchange column, filled with 200/300 mesh Dowex 1-4 x (Cl-form), was 1.1 cm. in diam. and 30 cm. high. It was washed with 10 vols. 0.005M **borax-boric acid buffer** of pH 8.0 and 0.01M **NH3-NH4Cl buffer** of pH 9.3. Two ml. of this soln. (contg. 1 mg. of the components) was adsorbed on the column. The column was developed with a KCl soln. whose concn. was raised from 0.2M to 0.5M. Two beakers, 1 contg. 1:1 0.2M KCl soln. and the other 1:1 0.5M KCl soln. were connected to each other with a siphon. Both solns. were **buffered** with 0.005M **borax-boric acid buffer** to pH 8.0 and with 0.01M **NH3-NH4Cl buffer** to pH 9.3. The flow rate was 1.2-1.8 ml./min.; the eluant was collected in 9.0 ml. fractions. The phosphate content was detd. after hydrolyzing with 2N H2SO4, at 100° for 10 min. The sepn., up to heptamers, was complete; the peaks of the higher polymers overlapped.

L7 ANSWER 66 OF 71 CA COPYRIGHT 2004 ACS on STN  
AN 48:32885 CA  
OREF 48:5921b-e  
TI Amperometric mercurimetric titration of sulphhydryl groups in biologically important substances at the rotated platinum wire electrode as indicator electrode  
AU Kolthoff, I. M.; Stricks, Walter; Morren, Loes  
CS Univ. of Minnesota, Minneapolis  
SO Anal. Chem. (1954), 26, 366-72  
AB Reduced glutathione can be titrated amperometrically with Hg++ by using a rotated Pt electrode in either acid or alk. soln. In acid soln. (acetate buffers) the concn. of Cl- must not exceed 10-3M to obtain a sharp end point. At pH 9-13 in **borax**, phosphate, carbonate, or **ammonia buffers**, up to 0.5M Cl- does not interfere. Glutathione can be detd. with an error of  $\pm$  2% when present in 10-5 - 6  $\times$  10-4M soln. The end point becomes less sharp at greater concns. Cysteine is best titrated in a 0.05M **borax buffer** of pH 9.2. The end point is less sharp at lower pH values. Cl- up to 0.5M does not interfere. The optimal concn. range of cysteine is 10-5 - 4  $\times$  10-4M, where an error of  $\pm$  1% is obtained. The-SH groups of crystd. bovine plasma albumin can be titrated when the protein soln. is 1.5  $\times$  10-5 - 10-4M at pH values of 4-10.8 in the presence of Cl- or NH3. Low results are obtained below pH 4. Protein solns. stronger than 10-4M do not yield sharp end points. Sulrite interferes in all the above titrations. The method

has been applied to routine detns. of SH in the albumin and globulin fractions of normal and pathol. serums.

=> log y

STN INTERNATIONAL LOGOFF AT 10:43:52 ON 28 APR 2004